

## ABSTRACT OF THE DISCLOSURE

Methods of controlling waste streams and products in extrusion systems are provided in order to create from such materials consistent-quality recyclable waste streams which can be directly fed to an extruder without creating upset conditions or production of out of specification extrudates. In the methods of the invention, an incoming stream (10) of waste material including fat, protein, starch and moisture is blended to increase the homogeneity thereof whereupon the material is analyzed using one or more analyzers (16), especially microwave and near infrared analyzers. Such analysis creates a product signature for the material which is stored in a control microprocessor (28). The analyzed stream (10) can be modified as necessary by recirculation and/or addition of extra ingredients to create a final output stream (18) suitable for extrusion along with a primary stream (48) of extrudable material.